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EXAMINER	
PYZOCHA, MICHAEL J	
ART UNIT	**PAPER NUMBER**
2137	

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/822,986	ELLISON ET AL.	
	Examiner	Art Unit	
	Michael Pyzocha	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15 and 17-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 17-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-15 and 17-23 are pending.

2. Amendment filed 10/13/2005 has been received and considered.

Specification

3. The amendment filed 10/13/2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "entering into an isolated execution mode only if the file does not have a corresponding digital signature chain."

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 13-15, 17-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The description of the situation when a digital signature chain is not present is described in lines 10-17 of page 17 of the specification; it no where states that the isolated execution mode could not be entered at any point before or after this situation.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 13-15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waldin et al (U.S. 6,094,731) further in

view of Menezes et al ("Handbook of Applied Cryptography") and further in view of Chang et al (US 5724425).

As per claim 13, Waldin et al discloses a method: entering into isolated execution mode only if the file does not have a corresponding digital signature chain; analyzing an integrity of the file during the isolated execution mode; and issuing the digital signature chain if the file has an acceptable file integrity during the isolated execution mode (see Waldin et al column 6 lines 18-65) and verifying the digital signature chain of the file by determining whether the file has an acceptable file integrity, and whether each signatory providing the digital signature chain is authorized (see column 6 lines 18-65).

Waldin et al fails to disclose determining whether a digital signature chain accompanies a file to be accessed and the digital signature chain (Waldin et al discloses a hash chain).

However, Chang et al teaches determining whether a digital signature chain accompanies a file to be accessed (see column 3 lines 38-45) and Menezes et al teaches a digital signature from a hash (see page 452-454).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use Chang et al's

determination and Menezes et al's method of digital signature creation for the hash chain of Waldin et al's system.

Motivation to do so would have been to determine the validity of received data (see Chang et al lines 38-45) and to allow for authentication, authorization and non-repudiation of information (see Menezes et al page 22).

As per claim 14, the modified Waldin et al, Menezes et al and Chang et al system discloses precluding access to the file if the file has unacceptable file integrity (see Waldin et al column 6 lines 18-65).

As per claim 15, the modified Waldin et al, Menezes et al and Chang et al system discloses precluding access to the file if at least one signatory of the digital signature chain is unauthorized (see Waldin et al column 6 lines 18-65).

As per claim 18, the modified Waldin et al, Menezes et al and Chang et al system discloses opening the file if the verified digital signature chain indicates acceptable file integrity (see Waldin et al column 6 lines 18-65); and refusing to open the if the verified digital signature chain indicates unacceptable file integrity (see Waldin et al column 4 lines 45-62).

8. Claims 1-4, 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waldin et al, further in view of Menezes et al and further in view of Garney (US 5386552).

As per claim 1, Waldin et al discloses a platform comprising: a processor (see figure 1 #9); and a memory coupled to and physically separate from the processor, the memory including an isolated memory area containing a file checker executable by the processor, the file checker including a file analyzer to perform a scan operation on a file to produce a scanning result and a signature generator to produce a signature chain including a digital signature having the scanning result and a version number of the file analyzer (see column 4 lines 45-62).

Waldin et al fails to disclose the digital signature chain (Waldin et al discloses a hash chain) and a portion of the memory accessible by the processor only when the processor is operating in an isolated execution mode.

However, Menezes et al teaches a digital signature from a hash (see page 452-454) and Garney teaches the use of isolated memory (see column 2 lines 64-68 and column 3 lines 46-52).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use Menezes et al's method of digital signature creation for the hash chain of

Waldin et al's system and to use Garney's isolated memory to store the file checker and signature generator.

Motivation to do so would have been to allow for authentication, authorization and non-repudiation of information (see Menezes et al page 22) to allow the system to handle interrupts from different devices (see Garney column 3 lines 35-45).

As per claim 2, the modified Waldin et al, Menezes et al and Garney system disclose the scan operation by the file checker is a virus detection function (see Waldin et al column 4 lines 48-49).

As per claim 3, the modified Waldin et al, Menezes et al and Garney system disclose the incoming file is prevented from being executed if the verified digital signature chain indicated an unacceptable file integrity (see Waldin et al column 6 lines 18-65).

As per claim 4, the modified Waldin et al, Menezes et al and Garney system disclose the incoming file is accessed if the verified digital signature chain indicates acceptable file integrity (see Waldin et al column 6 lines 18-65).

As per claim 9, the modified Waldin et al, Menezes et al and Garney system disclose the file analyzer is a virus

detector, an intrusion detector, or a file integrity checker (see column 4 lines 48-49).

As per claim 10, the modified Waldin et al, Menezes et al and Garney system discloses the signature generator comprises an encryptor to encrypt the scanning result using a signature key (see Menezes et al pages 452-454); and a time stamper coupled to the encryptor to timestamp the encrypted result using a time indicator, the time stamped encrypted result corresponds to the digital signature (see Waldin et al column 4 line 63 through column 5 line 50).

As per claim 11, the modified Waldin et al, Menezes et al and Garney system discloses the time indicator is one of a calendar time and a version identifier of the scanner (see Waldin et al column 4 lines 63-67).

As per claim 12, the modified Waldin et al, Menezes et al and Garney system discloses the file is code (see Waldin et al column 3 lines 5-20).

9. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified Waldin et al, Menezes et al and Garney system as applied to claim 5 above, and further in view of Swaney et al (U.S. 4,488,232).

As per claim 5, the modified Waldin et al, Menezes et al and Garney system discloses a first control unit coupled to both

the processor and the memory (see Waldin et al column 4 lines 45-62); but fails to disclose a second control unit coupled to the first control unit and a token bus interface.

However Swaney et al teaches a token bus interface (see column 8 lines 9-27 where it is inherent the system with a token bus interface must have a second control unit coupled with the first control unit to allow for the output of the file via the token bus interface).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use Swaney et al's token bus interface within the modified system of Waldin et al and Menezes et al.

Motivation to do so would have been to allow for the systems to use a token bus to transfer the data (see Swaney et al column 1 lines 10-14).

As per claim 8, the modified Waldin et al, Menezes et al, and Swaney et al system discloses input/output devices coupled to the second control unit (see column 8 lines 9-27).

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the modified Waldin et al, Menezes et al, and Chang et al system as applied to claim 13 above, and further in view of Hewlett-Packard Co. (EP 1030237).

As per claim 17, the modified Waldin et al and Menezes et al system fails to disclose issuing the digital signature chain with an indication that the file integrity is unacceptable if the integrity of the file is analyzed and determined to be unacceptable.

However, Hewlett-Packard Co. discloses such an indication (see column 6 lines 33-36).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use Hewlett-Packard Co.'s indication in the modified Waldin et al and Menezes et al system.

Motivation to do so would have been to determine when a file is being access (see Hewlett-Packard Co column 7 lines 1-8).

11. Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified Waldin et al, Menezes et al, and Chang et al system as applied to claim 13 above, and further in view of Garney.

As per claim 19, the modified Waldin et al, Menezes et al, and Chang et al system discloses code for determining whether a digital signature chain accompanies a file to be accessed; entering into isolated execution mode only if the file does not have a corresponding digital signature chain; analyzing an

integrity of the file during the isolated execution mode; and issuing the digital signature chain if the file has an acceptable file integrity during the isolated execution mode (see Waldin et al column 6 lines 18-65) and verifying the digital signature chain of the file by determining whether the file has an acceptable file integrity, and whether each signatory providing the digital signature chain is authorized (see column 6 lines 18-65).

Waldin et al, Menezes et al, and Chang et al system fails to disclose the code being stored in a portion of the memory accessible by the processor only when the processor is operating in an isolated execution mode.

However, Garney teaches the use of isolated memory (see column 2 lines 64-68 and column 3 lines 46-52).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use Garney's isolated memory to store the code for the file checker and signature generator.

Motivation to do so would have been to allow the system to handle interrupts from different devices (see Garney column 3 lines 35-45).

As per claim 20, the modified Waldin et al, Menezes et al, and Chang et al system discloses precluding access to the file

if the file has unacceptable file integrity (see Waldin et al column 6 lines 18-65).

As per claim 21, the modified Waldin et al, Menezes et al, and Chang et al system discloses precluding access to the file if at least one signatory of the digital signature chain is unauthorized (see Waldin et al column 6 lines 18-65).

As per claims 22-23, the modified Waldin et al, Menezes et al, and Chang et al system discloses providing a time stamp and version number of the code for determining whether the digital signature chain accompanies the file to be accessed (see Waldin et al column 6 lines 18-65 and figures 4 and 5).

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the modified Waldin et al, Menezes et al and Garney system as applied to claim 1 above, and further in view of Mattison (US 5778070).

As per claim 6, the modified Waldin et al, Menezes et al and Garney system fails to disclose different public and private signatory keys are used for different versions of the file analyzer.

However, Mattison teaches using different keys for different versions (see column 3 line 58 through column 4 line 7).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to using different keys for different versions of the file analyzer of the modified Waldin et al, Menezes et al and Garney system.

Motivation to do so would have been to ensure that any previous version of the program could be updated without going through all revisions in between (see column 3 line 58 through column 4 line 7).

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the modified Waldin et al, Menezes et al and Garney system as applied to claim 1 above, and further in view of Spear (US 6611925).

As per claim 7, the modified Waldin et al, Menezes et al and Garney system fails to disclose the file analyzer can further issue multiple digital certificates with different varying expiration dates.

However, Spear teaches a file analyzer issuing digital certificates (see Abstract).

At the time of the invention it would have been obvious to a person of ordinary skill in the art for the analyzer of the modified Waldin et al, Menezes et al and Garney system to issue certificates.

Motivation to do so would have been to certify the scanned data is free of malicious code (see Abstract).

The modified Waldin et al, Menezes et al, Garney, and Spear system fails to disclose that the digital certificates of different varying expiration dates. However Official Notice is taken that at the time of the invention it would have been obvious to a person of ordinary skill in the art for digital certificates to have different varying expiration dates.

Motivation to do so would have been that different information is valid for different periods of time.

Response to Arguments

Applicant's arguments filed 10/13/2005 have been fully considered but they are not persuasive. Applicant argues: in claims 13 and 19 the modified Waldin, Menezes, and Chang (and Garney) system fails to disclose entering into an isolated execution mode only if the file does not have a corresponding digital signature chain; the modified Waldin, Menezes, and Garney system fails to disclose the memory is physically separate from the processor; the cited time indicator does not provide information regarding the recentness of the scan operation; and HP fails to teach a digital signature chain that

is issued with an indication that the file integrity is unacceptable.

Regarding Applicant's argument that the modified Waldin, Menezes, and Chang (and Garney) system fails to disclose entering into an isolated execution mode only if the file does not have a corresponding digital signature chain, as disclosed in column 6 of Waldin (as modified) when step 1 passes without entering the scanning module then it will enter the scanning module only when the digital signature fails which is when it is not present.

Regarding Applicant's argument that the modified Waldin, Menezes, and Garney system fails to disclose the memory is physically separate from the processor, Applicant is directed to figure 1 numbers 9 and 10 which shows the processor and memory being physically separate.

Regarding Applicant's argument that the cited time indicator does not provide information regarding the recentness of the scan operation, in column 4 lines 63-67 of Waldin the date when the virus definitions were updated and the version number of the scanner are added, these both provide information regarding the recentness of the scan operation.

Regarding Applicant's argument that HP fails to teach a digital signature chain that is issued with an indication that

the file integrity is unacceptable, HP is relied upon for its teaching of indicating lack of integrity which is applied to the digital signature of the modified system of Waldin and Menezes.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Muhlestein (US 20020103783) teaches attaching a timestamp to a file after it was scanned for a virus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pyzocha whose telephone number is (571) 272-3875. The examiner can normally be reached on 7:00am - 4:30pm first Fridays of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJP

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